

What is claimed is:

1. A mobile station having radio channels being set
between the mobile station and a plurality of base stations,
and performing communication with the plurality of base
stations in a communication condition such that one base

station selected among the plurality of base stations
transmits a user data signal which transmission power is
controlled; and that the plurality of base stations,
including the selected base station transmit signals
including a control data signal which transmission power
is controlled in a similar way as the user data signal;
said mobile station comprising:

a measurement section measuring, on a basis of each
base station, quality of the control data signal
transmitted with the transmission power controlled;
a selector selecting the base station transmitting the
user data signal, based on the quality of the control
data signal from each base station measured in the
measurement section; and
a transmitter transmitting identification
information for identifying the base station selected by
the selector, to the plurality of base stations.

2. The mobile station according to claim 1, further
comprising:

a generator having preset target quality, and
comparing the target quality with the quality of the base

station selected by the selector among the quality sets
measured by the measurement section, generating power
control information instructing to decrease the
transmission power in case of the latter having better
5 quality than the former, and instructing to increase the

transmission power in case of the former having better
quality than the latter.

3. The mobile station according to claim 1 or 2, wherein
10 wherein the measurement section measures the signal quality
with a signal-to-interference power ratio.

4. The mobile station according to claim 1 or 2, wherein
15 wherein the measurement section measures the signal quality
with a reception power.

5. The mobile station according to claim 1, further
comprising:

a generator generating power control information
20 indicating how the transmission power of the plurality of
base stations is to be controlled, based on the quality
of the base station selected by the selector among the
quality sets measured by the measurement section,

wherein the transmitter stores the identification
25 information and the power control information generated
by the generator into each time slot in a frame having a
plurality of time slots, and transmits the identification

information and the power control information to the plurality of base stations.

6. The mobile station according to any one of claim 1 to 5,

wherein the plurality of base stations communicate with the mobile station using W-CDMA, and the user data signal is a dedicated physical data channel signal, and the measurement section measures the quality of a dedicated physical channel control signal;

7. A base station having radio channels being set up between the base station and a mobile station, transmitting a user data signal which transmission power is controlled to the mobile station only when the base station of interest is selected by the mobile station, and transmitting, to the mobile station, signals including a control data signal which transmission power is controlled in a similar way as the user data signal, irrespective of whether or not the mobile station of interest is selected; said base station comprising:

a receiver receiving identification information transmitted from the mobile station, representing the base station which is selected by the mobile station based on the quality of the control data signal transmitted with the transmission power controlled; and

a transmitter transmitting the user data signal to

the mobile station only when the identification information represents the base station of interest.

8. The base station according to claim 7,
5 wherein the receiver further receives power control information determined by the mobile station based on the quality of the control data signal, indicating how the transmission power is to be controlled, and wherein said base station further comprises a power controller, which controls transmission power of both the user data signal and the control data signal, based on the power control information received by the receiver.
10 9. The base station according to claim 8, wherein the power controller controls to increase the power in case of the power control information instructing increase of power, and to decrease the power in case of the power control information instructing decrease of power, whereas when the identification information does not represent the base station of interest, the power controller controls to increase the power in case of the power control information instructing increase of power, and maintains the present
25 power in case of the power control information instructing decrease of power.

10. The base station according to claim 9,
wherein a power increment when the identification
information represents the base station of interest equals
to a power increment when the identification information
5 does not represent the base station of interest.

11. The base station according to claim 8,
wherein, when the identification information represents the base station of interest, the power
10 controller controls to increase the power in case of the power control information instructing increase of power, and to decrease the power in case of the power control information instructing decrease of power, whereas, when the identification information does not represent the base station of interest, in case of the power control
15 information instructing increase of power, the power controller controls to increase the power with a smaller increment than the increment of when the identification information represents the base station of interest, and
20 in case of the power control information instructing decrease of power, the power controller controls to decrease the power with a smaller decrement than the decrement of when the identification information represents the base station of interest.

25

12. The base station according to claim 8,
wherein, when the identification information

represents the base station of interest, the power controller controls to increase the power in case of the power control information instructing increase of power, and to decrease the power in case of the power control information instructing decrease of power, whereas when

the identification information does not represent the base station of interest, the power controller controls to maintain the present power in case of the power control information instructing either increase or decrease of power.

13. A mobile communication system having a plurality of base stations and a mobile station, with radio channels being set between the plurality of base stations and the mobile station, in which a user data signal is transmitted with transmission power controlled to the mobile station from one base station selected among the plurality of base stations, and control data signals, which transmission power is controlled in a similar way as the user data signal, are transmitted to the mobile station from the plurality

of base stations including the selected base station,

wherein said mobile station comprises:

a measurement section measuring quality of the control data signal on a basis of each base station;

25 a selector selecting the base station transmitting the user data signal, based on the quality of the control data signal from each base station measured in the

measurement section; and

a. transmitter transmitting identification information for identifying the base station selected by the selector to the plurality of base stations,

5 and each plurality of base stations comprises:

a transmitter transmitting the user data signal to the mobile station only when the identification information transmitted from the mobile station represents the base station of interest.

10

14. A communication method for a base station among a plurality of base stations, with radio channels being set between the plurality of base stations and a mobile station, performed in a communication condition such that

15 a user data signal which transmission power is controlled is transmitted to the mobile station from one base station selected among the plurality of base stations, and that control data signals, which transmission power is

controlled in a similar way as the user data signal, are

20 transmitted to the mobile station from the plurality of base stations including the selected base station, said communication method comprising:

receiving identification information, transmitted from the mobile station, representing the base station which is selected by the mobile station based on the quality of each control data signal with the transmission power controlled; and

when the identification information represents the base station of interest, transmitting the user data signal with the transmission power controlled, and also transmitting the control data signal with the transmission power controlled, whereas when the identification

information does not represent the base station of interest, transmitting the control data signal with the transmission power controlled, without transmitting the user data signal.

10 15. A communication method for a base station among a plurality of base stations, with radio channels being

set between the plurality of base stations and a mobile station, performed in a communication condition such that

a user data signal which transmission power is controlled

15 is transmitted to the mobile station from one base station selected among the plurality of base stations, and that

control data signals, which transmission power is controlled in a similar way as the user data signal, are

transmitted to the mobile station from the plurality of base stations including the selected base station,

20 wherein said mobile station:

measures quality of the control data signals on a basis of each base station;

selects the base station transmitting the user data signal, based on the measured quality of each control data signal transmitted from each base station; and

transmits identification information for identifying

the selected base station, to the plurality of base stations,

and wherein said each plurality of base stations:

when the identification information transmitted from

5 the mobile station represents the base station of interest,

transmits the user data signal which transmission power is controlled based on the power control information received from the mobile station; and also transmits the control data signal with the transmission power controlled; whereas when

10 the identification information does not represent the base station of interest, transmits the control data signal with the transmission power controlled, without transmitting the user data.

15 16. A mobile station performing communication with a plurality of base stations, comprising:

a measurement section measuring, on a basis of each base station, quality of control data signals which are

transmitted from the plurality of base stations and which

20 addressed to the mobile station of interest and which transmission power is controlled;

a selector selecting a base station transmitting a user data signal addressed to the mobile station of interest, based on the quality of the control data signals which are
25 addressed to the mobile station of interest and measured in the measurement section; and

a transmitter transmitting identification

information for identifying the base station selected by
the selector, to the plurality of base stations.

17. A base station performing communication with a
5 mobile station, comprising:

a receiver receiving identification information
transmitted from the mobile station, representing the base
station which is selected based on quality of control data
signals which transmission power is controlled; and
10 a transmitter when the identification information
represents the base station of interest, transmitting with
the transmission power controlled, both a user data signal
addressed to the mobile station and the control data signal
addressed to the mobile station, whereas when the
15 identification information does not represent the base
station of interest, transmitting the control data signal
addressed to the mobile station with the transmission
power controlled, without transmitting any user data
addressed to the mobile station of interest.

20 18. A mobile communication system performing
communication between a plurality of base stations and a
mobile station,

wherein said mobile station:

25 measures quality of control data signals, which are
transmitted with the transmission power controlled from
the plurality of base stations and addressed to the mobile

station of interest, on a basis of each base station;

selects the base station transmitting a user data signal addressed to the mobile station of interest, based on the measured quality of the control data signals which

5 are transmitted from the plurality of base stations and

addressed to the mobile station of interest; and

transmits identification information for identifying

the selected base station, to the plurality of base

stations;

10 and wherein said base station:

when the identification information transmitted from

the mobile station represents the base station of interest,

transmits with the transmission power controlled, both the

user data signal addressed to the mobile station and the

15 control data signal addressed to the mobile station of

interest, whereas when the identification information does

not represent the base station of interest, transmits the

control data signal addressed to the mobile station of

interest with the transmission power controlled, without

20 transmitting any user data addressed to the mobile station

of interest.